

92. Pasture was fairly abundant within as well as outside forest limits during the year owing to an abnormally high flood having traversed the flat country and heavy rainfall having fallen in the hills. The banking up of the river by the erection of "protective bunds," it was noticed, had completely destroyed the grass and other surface growth in a few forests.

93. A comparison is made in the following statement of the number of animals licensed for grazing at full and privileged rates during the years 1893-94 and 1894-95 :—

Division.	No. OF ANIMALS.		AMOUNT OF FEES COLLECTED.	
	1893-94.	1894-95.	1893-94.	1894-95.
			Rs.	Rs.
Sukkur	169,119	132,698	15,682	17,963
Naushahro	122,360	104,937	8,867	8,354
Hyderabad	141,369	105,049	12,194	10,889
Jerruck	93,663	81,718	11,599	11,375
Total ...	526,511	484,402	48,342	48,581

94. It is an undeniable fact that, owing to collusion with forest subordinates, professional as well as non-professional graziers register about half the number of the animals they possess, and the loss to forest revenues resulting from this form of corruption is therefore considerable. Now that departmental agency for the extraction of timber and firewood is no more to be resorted to, both the controlling and executive staff will be able to exercise better supervision over their subordinates, and it would not be a matter of surprise if the revenue from this source rose 30 per cent. at least in the near future.

(3) *Miscellaneous Produce.*

95. The principal articles of minor produce in the forests of the Sind Circle are palrás (pods of the *Acacia Arabica*) Removal of minor products. and lac, which is obtained from incrustations on babul and kundee branches produced by the insect *Coccus Lacca*, which punctures the bark. The right to collect these as well as other less important minor products is sold annually by auction. Honey, wax, gum and "ber" fruit, kinra, &c., are allowed to be taken free of charge.

CHAPTER III.

GROSS YIELD AND OUTTURN OF FOREST PRODUCE.

I.—*Departmental Operations.*

(a) *Timber.*

96. The figures in the following statement show the outturn of large Outturn of timber. and small timber resulting from departmental operations undertaken during the two years 1893-94 and 1894-95 :—

Year.	TIMBER IN ROUGH.		SAWN TIMBER.			
	Logs.	Poles.	Planks.	Bolsters.	Sleepers.	Slabs.
	No.	No.	No.	No.	No.	No.
1893-94	12,850	161,905	1	731	9,554	1,501
1894-95	13,195	172,662	8,261	27	2,120	81
Increase ...	345	10,757	8,260	...	...	...
Decrease ...	...	...	...	704	7,434	1,420

97. Heavy babul and bahan timber is not so much in request for house building purposes as it once used to be, and it is apprehended that the local demand will continue diminishing owing to large importations from the Punjab of chir and deodar. It was not deemed advisable, therefore, to over-stock the sale depôts with material which could not find a ready sale. On the other hand, for small bahan timber, rafters, posts, &c., there is almost an unlimited market, and more than double the quantity the forests are capable of producing at present could easily be disposed of, and the matter is under consideration whether the simple coppice method of treatment should not be applied to the bahan forests of this Circle. The outturn in sawn timber, chiefly babul, is solely regulated by the requirements of the Public Works Department and the North-Western State Railway.

98. The following is an abstract of the details exhibited in Form No. 59 :—

Description of timber.	Balance on 1st July 1894.	Outturn of the year.	Total.	Disposed of during the year.	Balance on 30th June 1895.	Remarks.
	No.	No.	No.	No.	No.	
<i>Sukkur Division—</i>						
Logs	6,189	6,269	12,458	4,901	7,557	
Poles	29,376	27,703	57,079	40,511	16,568	
<i>Naushahro Division—</i>						
Logs	76	13	89	89	...	
Slabs	30	...	30	3	27	
Poles ... ...	...	1,645	1,645	1,510	135	
<i>Hyderabad Division—</i>						
Logs	122	6,227	6,349	4,226	2,123	
Sleepers	2	2,120	2,122	1,987	135	
Planks ... ...	...	* 8,522	8,522	8,518	4	*
Slabs	2	† 118	120	118	2	261 obtained by con- version of old stock.
Poles	21,630	143,314	164,944	162,607	2,337	† 37 do.
<i>Jerruck Division—</i>						
Logs	44	686	730	612	118	
Bolsters ... ...	...	27	27	27	...	

SUKKUR.—The operations of the year were restricted to the removal of material cut in the past year, as the sale depôts were over-stocked and a large quantity of bahan (*Populus Euphratica*) was being imported into Sukkur, Shikarpur and Rohri from the hitherto unexploited forests in the Khairpur State.

NAUSHAHRO.—Departmental agency is hardly ever employed in this division, owing to the long distance of the forests from the chief timber markets. The yield of the year represents a small consignment originally prepared for the North-Western Railway which, having not come up to the required specifications, was disposed of locally.

HYDERABAD.—The outturn of the year is just about half of what the forests of this division are capable of yielding, but owing to the congested state of the labour market departmental operations were a good deal interfered with.

JERRUCK.—For the first time this year, some of the indents received from the North-Western Railway and other public bodies were executed through private agency, a contractor having been found to undertake, after payment of royalty in the forests, to fell, saw and deliver the material at its destination and to have direct dealings with the consumers.

Timber supplied to Government Departments.

99. The following statement exhibits the quantity of timber supplied to the Gun Carriage Factory, Bombay, and other Departments :—

Name of Department.	Bahan posts and rafters.	Babul logs.	Babul sleepers.	Babul planks.	Babul and bahan props.	Babul bolsters.
Executive Engineer, Sharigh	No. •	No.	No.	No.	No.	No.
Hyderabad Municipality	... ...	... ...	1,923	8,518	18,340	...
Public Works Department	743	402	14	...	...	...
Gun Carriage Factory	...	...	571	...	...	...
North-Western Railway	...	...	...	4,598	...	24
Karachi Harbour Works	...	...	...	6,273	...	...
Total ...	1,145	585	8,196	13,116	18,340	24

(b) *Firewood and Charcoal*

Classes of firewood.

100. For the purposes of sale, firewood is assorted into the following three classes :—

Class.	Size of billets.	Dimensions of stacks.
Steamer fuel	... 3 to 4 feet long and 6 to 18 inches in girth	... 15 × 15 × 3
Railway fuel	... 3 to 4 feet long and 12 to 30 inches in girth	... 15 × 15 × 3
Loco. fuel	... 2½ feet long and 7 to 30 inches in girth	... 50 × 5 × 4

101. The first is chiefly sold for consumption by ferry steamers, Municipal engines and for domestic use. Owners of local industries, such as cotton ginning factories and presses, oil and flour mills, distilleries, &c., purchase the second kind, and the third, as its name implies, is supplied to the North-Western Railway and sometimes to other purchasers.

Comparative yield of firewood and charcoal.

102. A comparison between the yields of the two years 1893-94 and 1894-95 in firewood and charcoal is shown in the statement given below :—

Year.	* Firewood.	Loco. fuel.	Charcoal	REMARKS.
	Mds.	C. ft.	Mds.	
1893-94 ...	433,357	7,427,557	89,513	* Firewood includes both steamer and railway fuel.
1894-95 ...	371,727	7,583,234	90,711	
Increase ...	... 155,677		1,198	
Decrease ...	61,630	...	...

103. The above figures show that the outturn both in firewood and charcoal has been pretty even and calls for hardly any remarks except that it does not represent the total yield of the areas set apart for working during the year under report. Departmental operations were retarded not only owing to the late subsidence of the abnormally high flood of the year, but also to the great difficulty experienced in all divisions to obtain sufficient labour throughout the working season, caused by the opening of such large public works as the Jamrao

Canal and the Kotri-Rohri Railway. The progress of the work was also interrupted by the pressing of donkeys for the Chitral expedition as without the aid of these animals the professional wood-cutters cannot remove firewood from the forests to the river bank or railway station.

Quantity of fuel supplied to large consumers.

104. The subjoined statement shows the quantity of firewood supplied under departmental agency to the State Railway and other Departments and large consumers for two years:—

To whom supplied.	FIREWOOD.	
	1893-94.	1894-95.
	Mds.	Mds.
North-Western Railway ...	1,283,054	1,093,126
Commissioner's steamer "Jhelum" ...	29,965	31,593
Indus Ferry steamers ...	68,537	68,990
River Conservancy Department ...	4,494	4,528
Public Works Department ...	41,587	3,910
Karachi Harbour Works ...	39,516	...
Commissariat Department ...	217,976	71,267
Hyderabad Water Works ...	61,800	37,000
Sukkur Municipality ...	7,295	11,107
Hyderabad Jail ...	3,576	2,701
Government Farm, Hyderabad ...	4,500	3,500
Seth Vishindas, contractor ...	10,169	132,995
Nawab of Bahawalpur's steamer ...	...	125
Sukkur Water Works ...	600	6,335
Executive Engineer, Military Works, Quetta ...	2,207	6,030
Adjutant, Royal Artillery, Quetta ...	973	965
Messrs. Herman, Boyce & Co. ...	8,550	...
Cotton ginning engines ...	200,700	226,550
Indus Riverain Survey ...	...	4,056
Total ...	1,985,499	1,704,778

(c) *Other Minor Produce.*

Minor products.

105. Minor products are not collected through departmental agency in the Sind Circle.

II.—Removal of Produce by purchasers.

(a) *Timber.*

Comparative statement of timber removed by purchasers.

106. The following is a comparative statement for two years of the quantity of timber cut and removed from the forests by purchasers:—

Division.	Timber.		Posts.		Rafters.		Sleepers.		Planks.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
	C. ft.	C. ft.	No.	No.	No.	No.	No.	No.	No.	No.
Sukkur ...	23,431	2,360	216	101	25,537	23,638	...	...	...	...
Naushahro ...	3,143	9,516	...	1,000	17,789	41,358	...	...	...	...
Hyderabad ...	3,609	10,061	1,414	2,688	13,397	27,176	...	...	...	...
Jerruck ...	399	11,304	991	393	16,360	24,297	...	6,664	...	4,649
Total ...	30,582	33,241	2,621	4,182	73,083	116,469	...	6,664	...	4,649

107. The smaller and larger outturn of timber in the Sukkur and Naushahro Divisions, respectively, was due to the necessity or otherwise of clearing river banks threatened by erosion. In the year previous, more extensive operations were undertaken in the former division than in the latter, whereas during the year under report it was just the reverse. A larger removal of windfalls on banks of canals running through forest limits has increased the yield in timber in the Hyderabad Division.

Local as well as outside demands having been met by employing private instead of departmental agency is the cause of the better results shown against the Jerruck Division.

It will be noticed that the yield of the year in rafters is exceptionally large, which is due, I believe, to the fact that waste lands from which this kind of produce used to be extracted for local wants having been exhausted by reckless exploitation, the demands of such large towns as Larkana, Sehwan, Bubak and Tatta had to be met from Reserved Forests.

(b) *Firewood and Charcoal.*

Outturn of firewood and charcoal.

108. The comparative outturn in cubic feet for two years of firewood and charcoal is as follows:—

Division.	OUTTURN IN CUBIC FEET.	
	Firewood and Charcoal, 1893-94.	Firewood and Charcoal, 1894-95.
Sukkur	2,890,152	2,852,163
Naushahro	365,026	312,803
Hyderabad	323,777	372,114
Jerruck	53,440	398,972
Total ...	3,632,395	3,936,052

109. The larger outturn is mainly due to the abandonment of departmental in favour of private agency for supplying the requirements of the Commissariat Department at Karachi and the Manora Harbour Works.

110. The "ghat" realizations by sale of dead wood collected and removed by retail vendors for the two years 1893-94 and 1894-95 compare as follows:—

Name of Division.	Name of Ghat.	Revenue realised.	
		1893-94.	1894-95.
Sukkur	Rahuja	Rs.	Rs.
	Jhali	13,069	13,006
	Rohri		
	Sadar	13,294	13,415
Naushahro	Stewart		
	Khura	1,990	1,992
	Larkana	945	1,000
Hyderabad	Garhi Yasin		
	New Fuleli	966	1,055
	Old Fuleli		
	Hajipur	Total ...	30,264
			30,468

(c) Grazing.

Grazing receipts.

111. The revenue from grazing dues in each division for the year 1893-94 and 1894-95 is compared in the following table :—

Division.	1893-94.		1894-95.	
	Rs.		Rs.	
Sukkur ...	15,681		17,963	
Naushahro ...	8,867		8,354	
Hyderabad ...	12,194		10,889	
Jerruck ...	11,599		11,375	
Total ...	48,341		48,581	

112. The increase of Rs. 2,282 in the Sukkur Division is the result of the untiring efforts of Mr. Dalal, the Divisional Forest Officer. The collections in the other three would have shown similar improvement had it not been that the time of the officers in charge was fully taken up in arranging for the timber and fuel-supply under the departmental system.

(d) Other Minor Produce.

Realizations from farms.

113. The realizations by sale of farms for removal of minor produce and the right to fish in forest waters are given below for two years :—

Division.	Babul pods.		Lac.		Munj and Sar grass, &c.		Fishery.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
Sukkur ...	135	554	...	...	818	819	1,711	1,567
Naushahro...	1,109	572	...	...	919	752	1,392	1,449
Hyderabad ...	11,250	8,760	5,424	8,100	200	337	666	1,026
Jerruck ...	, 2,913	2,135	253	300	...	...	558	192
Total ...	15,407	12,021	5,677	8,400	1,937	1,908	4,327	4,234

BABUL PODS.—The crop was not plentiful in the two central divisions. The increase in Sukkur is due to a part of the revenue belonging to the previous year having been adjusted in 1894-95. The farm fetched an average price in Jerruck, but a sum of Rs. 900 was not recovered before the close of the year under report.

LAC.—A couple of years ago, the lac trade was in the hands of two or three merchants, but the combination was broken by an outsider who, finding there was money to be made in it, entered the competition, and since then the sales have continued to improve.

FISHERY.—Very many more depressions having been filled owing to the abnormal flood of the year, there was a larger area to work in resulting in an increase of revenue.

(e) Cultivation.

Area under cereal cultivation and its assessment.

114. The area under cereal crops and the amount realized by assessment in each division are given in the following statement:—

Division.	AREA UNDER CULTIVATION.				AMOUNT REALIZED BY ASSESSMENT.			
	Kharif.		Rabi.		Kharif.		Rabi.	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Sukkur	513	393	1,953	2,478	1,596	980	8,004	9,074
Naushahro...	453	154	2,290	2,054	1,305	496	7,178	6,235
Hyderabad	105	70	1,022	200	166	243	651	871
Jerruck	219	72	59	61	672	100	150	128
Total ...	1,290	689	5,324	4,793	3,739	1,819	15,983	16,308

115. It will be seen that the area under cultivation has been greatly reduced in accordance with the orders issued by the Commissioner in Sind. The figures would have been still lower had it not been for the fact that 716 acres in the Thul Reserves, the disforestation of which had been agreed upon, were let out for cultivation during the year under report.

116. A great deal of misapprehension exists outside the department as to the use it makes of the power to grant land for cultivation within forest limits, so much so that even in high quarters the continuance of the practice, which is of long standing, is not viewed with favour. Unfortunately, this misconception is due to the fact that for some years past persons who had no interest whatever in the cultivation of the soil were able to secure land in the forests, and whenever claims were made to acquire new accretions thrown up by the river, they were, in view of the impression that had gained ground that the department would not make any legitimate use of it, resisted, and it was with the greatest trouble that such lands ultimately became Reserved Forests. It need not be said that this abuse of the practice has been put an end to, and grants are now confined to zamindars and *bondá fide* tillers of the soil living in the vicinity of the forests, who render valuable and material assistance to the Forest Department in cultural operations, suppressing fires, clearing boundary-paths and compartment lines, erecting and repairing boundary-marks, providing labour for other works of improvement, &c. Another reform introduced in this connection is that, in forests which receive a copious supply of water and which are capable of being naturally reproduced, no cereal crops are to be raised on any pretence whatever, and that only when it is impracticable to reclothe the denuded areas is the aid of the cultivator to be sought in order that expenditure on ploughing or working up the soil, irrigating the area, if it does not come within the direct influence of the floods, &c., may be reduced to a minimum. The case is different on new formations or *katchas*. Until the deposits of successive seasons raise them to a sufficiently high level to enable a forest of valuable species to establish itself, the cultivation of the soil is a work of improvement, as it prevents the soil from deteriorating and helps in suppressing the dense rank growth which invades such lands almost as soon as they are thrown up.

III.—Free grants of Forest Produce.

Free grants.

— —

117. The following statement shows the value of the free grants of timber made during the last two years:—

Division.	1893-94.		1894-95.	
		Rs.		Rs.
Sukkur	365		418
Naushahro	38		629
Hyderabad	180		93
Jerruck	121		22
Total ...		.704		1,162

118. Applications for free grants are very seldom refused, and the people are allowed to enjoy the bounty of Government to the fullest extent possible so long as they come forward to ask for it. It has been seriously proposed to allow villagers residing in the vicinity of the forests to help themselves with small timber for their agricultural as well as domestic wants, that is to say, without any "troublesome preliminaries," as they are called. It is true that a large quantity of dead wood lies rotting on the ground in some forests which are heavily flooded, and at first sight it would appear that no harm would be done, but on the contrary the people would be willing to work harmoniously with the Department, if they are allowed to have free access to the forests. In Sind, however, such a procedure would not answer, simply because the forest subordinates and the villagers, as a rule, work rather too well together against the interests of the State so long as their own are not at stake. It is admitted that more liberality should be shown, and the Department is ready to let the ryots have as many thorns as they want as well as all the timber they require for agricultural and other purposes, but it is forgotten that beggars cannot be choosers, and if these small privileges are not exercised under proper supervision, they are likely to be abused to the detriment of the forests.

IV.—Produce removed by right-holders and under privileges.

119. Only rights of way and water exist in the Sind forests. The subjoined statement shows the number of cattle that were allowed to graze free and the value of the grazing enjoyed by them compared with the results of the previous year:—

Division.	No. of cattle.		Value of grazing.	
	1893-94.	1894-95.	1893-94.	1894-95.
Sukkur ...	7,875	10,435	9,782	12,883
Naushahro ...	6,895	5,226	1,503	1,204
Hyderabad ...	...	..	...	..
Jerruck ...	79	54	101	40
Total ...	14,849	15,715	11,386	14,127

V.—Summary of Produce removed from Forests.

Summary of produce.

120. The following is a summary of produce removed from the forests:—

Description of material.	Number or quantity.
Timber ...	317,692
Firewood and charcoal	16,739,439
Babul seed	10
Munj reed	819
Sar reed	402
Kanh grass	2,073
Dabh grass	2,116
Jhau brushwood	2,394
Babul bark	1,122
Tooth brushes	730